

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Lie-Fen Shyur et al.

Art Unit : 1652

Serial No. : 10/773,455

Examiner : Yong D. Pak

Filed : February 6, 2004

Confirmation No: 3601

Title : TRUNCATED 1,3-1,4-BETA-D-GLUCANASE

**MAIL STOP AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Applicants request consideration of the references listed on the attached PTO-1449 form.

This statement is being filed before the receipt of a first Office Action on the merits.

No fee is believed due. Please apply any charges to deposit account 06-1050, referencing attorney docket 08919-111001.

Respectfully submitted,

Date: May 4, 2006

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Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 08919-111001	Application No. 10/773,455
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)  (37 CFR §1.98(b))		Applicant Lie-Fen Shyur et al.	
		Filing Date February 6, 2004	Group Art Unit 1652

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AA	Keitel et al. "Molecular and active-site structure of a <i>bacillus</i> 1,3-1,4-beta-glucanase". Proc. Natl. Acad. Sci. USA 90:5287-5291, 1993.
	AB	Schimming et al. "Structure of the <i>clostridium thermocellum</i> gene <i>lic B</i> and the encoded beta-1,3-1,4-glucanase". Eur. J. Biochem. 204:13-19, 1992.
	AC	Teather et al. "DNA sequences of a <i>fibrobacter succinogenes</i> mixed-linkage beta-glucanase (1,3-1,4-beta-D-flucanohydrolase) gene". Journal of Bacteriology 172(7):3837-3841, July 1990.
	AD	Henrissat. "A classification of glycosyl hydrolases based on amino acid sequence similarities". Biochem J. 280:309-316, 1991.
	AE	Henrissat et al. "New families in the classification of glycosyl hydrolases based on amino acid sequence similarities". Biochem J. 293:781-788, 1993.
	AF	Chen et al. "Sequencing of a 1,3-1,4-beta-D-glucanase (lichenase) from the anaerobic fungus <i>Orpinomyces</i> strain PC-2: Properties of the enzyme expressed in <i>Escherichia coli</i> and evidence that the gene has a bacterial origin". Journal of Bacteriology 179(19):6028-6034, 1997.
	AG	Erfle et al. "Purification and properties of a 1,3-1,4-beta-D-glucanase (lichenase, 1,3-1,4-beta-D-glucan 4-glucanolhydrolase, EC 3.2.1.73) from <i>bacteriodes succinogenes</i> cloned in <i>Escherichia coli</i> ". Biochem J. 255:833-841, 1988.
	AH	Sanger et al. "DNA sequencing with chain-terminating inhibitors". Proc. Natl. Acad. Sci. USA 74(12):5463-5467, 1977.
	AI	Laemmli. "Cleavage of structural proteins during the assembly of the head of bacteriophage T4". Nature 227:680-685, 1970.
	AJ	Bradford. "A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein-dye binding". Analytical Biochemistry 72:248-254, 1976.
	AK	Cai et al. "Structural studies on folding intermediates of serine hydroxymethyltransferase using single tryptophan mutants". Journal of Biological Chemistry 271(6):2987-2994, 1996.
	AL	Heinemann et al. "Circular permutations of protein sequence: not so rare?" Letters TIBS 20: 349-350, 1995.
	AM	Bedford et al. "The effect of dietary enzyme supplementation of rye- and barley-based diets on digestion and subsequent performance in weanling pigs". Can. J. Anim. Sci 72:97-105, 1992.
	AN	Selinger et al. "The Rumen: A unique source of enzymes for enhancing livestock production". Anaerobe 2:263-284, 1996.
	AO	Wettstein et al. "Improved barley broiler feeds with transgenic malt containing heat-stable (1,3-1,4)-beta-glucanase". PNAS 97(25):13512-13517, 2000.
	AP	Miller. "Use of dinitrosalicylic acid reagent for determination of reducing sugar". Analytical Chemistry 31(3):426-428, 1959.
	AQ	Chen et al. "Directed mutagenesis of specific active site residues on <i>Fibrobacter succinogenes</i> 1,3-1,4-beta-D-glucanase significantly affects catalysis and enzyme structural stability". Journal of Biological Chemistry 276(21):17895-17901, 2001.
	AR	Cheng et al. "Mutagenesis of Trp <sup>54</sup> and Trp <sup>203</sup> residues on <i>Fibrobacter succinogenes</i> 1,3-1,4-beta-D-glucanase significantly affects catalytic activities of the enzyme". Biochemistry 41:8759-8766, 2002.
	AS	Heinemann et al. "Enzymology and folding of natural and engineered bacterial beta-glucanases studied by x-ray crystallography". Biol. Chem. 377:447-454, 1996.

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	